

REPORT DOCUMENTATION PAGE

AD-A234 575

Form Approved
OMB No. 0704-0188

Estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering the data, and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Avenue, N.W., Washington, DC 20540, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. Agency Use Only (Leave blank).		2. Report Date. Oct. 24, 1989		3. Report Type and Dates Covered. Abstract Oct. 24, 1989	
4. Title and Subtitle. Gulf Stream Path Near 67 W and 58 W				5. Funding Numbers. Program Element No. 61153N Project No. 03208 Task No. 080 Accession No. DN394458	
6. Author(s). W.J. Teague, Z.R. Hallock and Jan Dastague					
7. Performing Organization Name(s) and Address(es). Naval Ocean Research and Development Activity Code 331 SSC, MS 39529-5004				8. Performing Organization Report Number. AB 89:331:082	
9. Sponsoring/Monitoring Agency Name(s) and Address(es). Naval Ocean Research and Development Activity Code 114 SSC, MS 39529-5004				10. Sponsoring/Monitoring Agency Report Number.	
11. Supplementary Notes.					
12a. Distribution/Availability Statement. Approved for public release; distribution is unlimited.				12b. Distribution Code.	
13. Abstract (Maximum 200 words). A-1					
14. Subject Terms. Altimetry, Gulf Stream, Eddies				15. Number of Pages. 1	
				16. Price Code.	
17. Security Classification of Report. Unclassified	18. Security Classification of This Page. Unclassified	19. Security Classification of Abstract. Unclassified	20. Limitation of Abstract.		

021B-13 1130H 89:331:082

Gulf Stream Path Near 67 W and 58 W

W J Teague and Z R Hallock (Both at Naval
Ocean Research and Development Activity,
Stennis Space Center, MS 39529)

J.M. Dastugue (Planning Systems Inc.,
Slidell, LA 70458)

Estimates of Gulf Stream position and direction were computed at half-day intervals from adjacent Inverted Echo Sounder (IES) measurements (Teague and Hallock, 1989) as part of NORDA's Regional Energetics Experiment. These IES measurements were made from June 1985 to July 1986 with two arrays deployed near 67 W and 58 W, across the historical mean path of the Gulf Stream. Evolution of the Gulf Stream path estimated for each array is shown by video. Meander and eddy features are clearly visible at both locations.

Teague, W.J. and Z.R. Hallock (1989): Gulf Stream Path Analysis near the New England Seamounts, JGR, in press.

021B-14 1145H

Ocean Surface Currents in the Northeast Pacific Ocean--40 Years of Simulations With OSCURS Numerical Model

W James Ingraham Jr (Alaska Fisheries Science Center, National Marine Fisheries Service, NOAA, 7600 Sand Point Way NE, Seattle, WA 98115; 206-526-4241)

An empirical model for numerical ocean surface current simulations (OSCURS) was developed to calculate Lagrangian trajectories of surface water movement in the northeast Pacific Ocean and Bering Sea north of 35°N. This hind cast model used the FNOC gridded sea level pressure fields to calculate wind, then computed current speeds from the Witting (1909) formula, 4.8 times the square root of the wind speed. The angle of deflection, which averages about 25° to the right of the wind, was calculated from the Weber (1983) formula. The long-term mean geostrophic current (0/3000 db) was vectorially added to the wind current in each of the model's daily time steps.

Calibration of the Gulf of Alaska portion of OSCURS was performed by multiplying current speeds by 1.2 to make the best-fit visual agreement between model trajectories and daily positions of satellite tracked drifters which circulated around the Gulf of Alaska from July to December 1978 (Reed, 1980).

The video presentation shows year to year variability in the Great Divergence by simulated drifter trajectories which were started at 155°W and moved eastward toward the U.S. and Canada coastlines. The strongest northward flows occurred in 1951, '58, '67, and '68; the strongest southward flows occurred in 1947, '48, '55, '60, and 1961.